

REMARKS / ARGUMENTS

The present application includes pending claims 1-24, all of which have been rejected. By this Amendment, claims 1 and 12 have been amended, as set forth above, to further clarify the language used in these claims and to further prosecution of the present application. The Applicant respectfully submits that the claims define patentable subject matter.

Claims 1-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over USP 4,896,934 ("Arthurs"), in view of USP 7,151,777 ("Sawey"), and further in view of admitted prior art of USP 6,658,002 ("Ross"). The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

REJECTION UNDER 35 U.S.C. § 103

The MPEP states the following regarding the requirements for establishing a *prima facie* case of obviousness:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere

conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”

See the MPEP at § 2142, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), and *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval). “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art” See *id.*, § 2143.01. Furthermore, in order to render the claims obvious, the asserted prior art combination must **teach or suggest each and every claim feature**. See *In re Royka*, 490 F.2d 981 (CCPA 1974) (to establish *prima facie* obviousness of a claimed invention, all the claim features must be taught or suggested by the prior art)¹; see also *In re Wada and Murphy*, Appeal 2007-3733, citing *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (A proper obviousness determination requires that an Examiner make “a searching comparison of the claimed invention – **including all its limitations** – with the teaching of the prior art.”)

If a *prima facie* case of obviousness is not established, the Appellant has no obligation to submit evidence of nonobviousness:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

¹ Emphasis added except where noted otherwise.

See MPEP at § 2142.

With these principles in mind, the Applicants now turn to the claim rejections in particular.

I. CLAIMS 1-24 ARE PATENTABLE OVER THE PROPOSED COMBINATION OF ARTHURS, SAWEY, AND ROSS

The Applicant now turns to the rejection of claims 1-24 as being unpatentable over Arthurs in view of Sawey and Ross. The Applicant notes that the proposed combination of Arthurs, Sawey and Ross forms the basis for all of the pending rejections.

A. REJECTION OF INDEPENDENT CLAIMS 1 AND 12 UNDER 35 U.S.C. § 103(A)

Claims 1 and 11 recite, in part, “generating a destination port bit map based on the destination address information contained in said frame of digital data.” In this regard, the Examiner has equated Arthurs’ destination bitmap field (as illustrated in Fig. 3 of Arthurs) to the claimed “destination port bit map.” (See, *e.g.*, Final OA, p. 3.) However, the destination bitmap field of Arthurs is not generated “based on the destination address information contained in said frame of digital data,” as required by the claims. Instead, it is merely one of the fields contained in each of the data packets that arrive at the input ports 12. (See, *e.g.*, Arthurs, col. 5, lines 39-54.) Thus it is

received at the network device; it is not generated as required by the claims of the present application.

The Examiner recognizes this deficiency of Arthurs. Specifically, although the Examiner alleges that “Arthurs (*sic.*) further discloses using the destination port bit map,” in the very next sentence he concedes that “Arthurs (*sic.*) does not specifically mention generating the destination port map.” (See Final OA, p. 3.) In order to make up for this deficiency in Arthurs, the Examiner proposes combining Arthurs with Sawey. (See, *e.g.*, Final Office Action, p. 3). In this regard, the Examiner states:

Sawey teaches a crosspoint switch having multicast functionality, wherein Sawey discloses generating the destination port bit map based on the destination address contained in the frame of the digital data (see figure 4, elements 100 ‘receive multicast packet’, 102 ‘generate port map mapping multicast address to destination output ports’; and column 7, lines 41-45, of Sawey).

(Final OA, p. 3-4). Putting aside for the moment whether or not this is an accurate assessment of Sawey, the Examiner has failed to provide “articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness” in the detailed manner described in *KSR*. Rather, the Examiner attempts to support the claim rejections as follows:

The ordinary skilled person would have been motivated to have applied the teaching of Sawey into the system of Arthurs (*sic.*) to generate a destination port bit map because Arthurs (*sic.*) teaches “The present invention relates to an optical switch for use in a fiber optic telecommunications network, and more particularly, to an optical switch with multicast capability. . . . Sawey teaches “The present invention

relates generally to packet switching and, more particularly, to a crosspoint switch having multicast functionality. . . Therefore, Sawey's teaching could enhance Arthurs's (*sic.*) system.

Id. (emphasis in original). In other words, the Examiner apparently alleges that because both Sawey and Arthurs have "multicast capabilities", a person of ordinary skill in the art would have been motivated to incorporate Sawey's alleged teaching of "generating a destination port bit map" into Arthurs'. The Examiner fails to explain any motivation for making this combination, as required by *KSR*. The mere fact that Sawey and Arthurs both have "multicast capabilities" does not provide a motivation to combine these references. The Examiner also makes the unsupported allegation that "Sawey's teaching could enhance Arthurs's (*sic.*) system." (See Final OA, p. 3.) The Examiner provides no explanation of how Arthurs' system would allegedly be enhanced. Notably, in suggesting that a person skilled in the art would combine these references the Examiner ignores the fact that he also contends that "Arthurs (*sic.*) [already] discloses using the destination port bit map However, Arthurs (*sic.*) does not specifically mention generating the destination port map." (*Id.*) **Why would a person of ordinary skill in the art incorporate Sawey's alleged teaching ("generating the destination port bit map . . .") into Arthurs' system if, as alleged by the Examiner, "Arthurs (*sic.*) [already] discloses the destination port bit map?" The answer is that a person of ordinary skill in the art simply would not make this combination. There would be no need to "generate" a destination bit map if it already existed.**

In conclusion, there simply is no rational basis for combining Arthurs and Sawey in the manner suggested by the Examiner. Instead, the Examiner appears to be proposing the combination based solely on improper hindsight. As such, the rejections based on the proposed combination of Arthurs and Sawey are improper and should be withdrawn.

Moreover, even if the references are combined in the manner suggested by the Examiner, independent claims 1 and 10 are still patentable because the resulting combination does not include at least the following limitations of claim 1:

[G]enerating a physical port security bit map of allowed destination ports, wherein said physical port security bit map is generated based on one or both of information in said received frame of digital data and/or port security information associated with said network device;

Neither Arthurs nor Sawey, alone or in combination, disclose or suggest a “physical port security bit map of allowed destination ports,” as required by this claim element. As such, they also do not disclose or suggest “comparing said destination port bit map with said physical port security bit map.” The Examiner recognizes this deficiency of Arthurs and Sawey. Specifically, although the Examiner alleges that “Arthurs (*sic.*) discloses generating the physical port availability bit map,” in the very next sentence he concedes that “Arthurs (*sic.*) does not specifically mention the physical port security bit map.” (See Final OA, p. 3). In order to make up for this

deficiency in Arthurs, the Examiner proposes combining Arthurs with Ross. (See, e.g., Final OA, p. 4). In this regard, the Examiner states:

Ross teaches a method for performing logical operations for packet processing, wherein Ross discloses generating a physical port security bit map based on information in said received frame of digital data (see column 3, line 58 to column 4, line 1 'Thus, if the rule is "deny packets from port 80," the corresponding CAM entry is a bit string representing a value of 80 in the portion of the string corresponding to the port number [i.e., a physical port security bit map]. Note that, as the rules are typically more complex than simple filters on port numbers, the CAM entries typically consists of multiple fields corresponding to the parts of the conventional flow label of a packet. Such fields typically include the IP source address. IP destination address [i.e., information of the packet], source port number, destination port number, type of service (TOS), and Layer 3 and Layer 4 protocol identification.', of Ross, emphasis added).

(Final OA, p. 4, emphasis added in original). Putting aside for the moment whether or not this is an accurate assessment of Ross, the Examiner has failed to provide "articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness" in the detailed manner described in *KSR*. Rather, the Examiner attempts to support the claim rejections as follows:

The ordinary skilled person would have been motivated to have applied the teaching of Ross into the system of Arthurs to generate the physical port security bit map, because Arthurs teaches "Illustratively, the electronic control network is in the form of a track which sequentially links all of the input ports and output ports. At the beginning of the track is a token generator which generates control tokens. The control tokens are passed sequentially around the track from port to port." (see column 2, lines 58-63, of Arthurs, emphasis added). Ross teaches "The present invention generally concerns data communications systems, in particular internetworking systems and specifically access control techniques for

such systems." (see column 1, lines 1315, of Ross, emphasis added).
Therefore, Ross' teaching could enhance Authurs's system.

(Final Office Action, p. 4-5, emphasis in original). In other words, the Examiner apparently alleges that because both Arthurs and Ross allegedly relate to "access control techniques", a person of ordinary skill in the art would have been motivated to incorporate Ross' alleged teaching of "physical port security bit map" (and its generating) into Arthurs'. The Examiner fails to explain any motivation for making this combination, as required by *KSR*. **The mere fact that Arthurs and Ross both relate to "access control techniques" does not provide a motivation to combine these references. The Examiner also makes the unsupported allegation that "Ross' teaching could enhance Arthurs's (*sic.*) system."** (See Final OA, p. 5). The Examiner provides no explanation of exactly how Arthurs' system would allegedly be enhanced.

In conclusion, there simply is no rational basis for combining Arthurs and Ross in the manner suggested by the Examiner. Instead, the Examiner appears to be proposing the combination based solely on improper hindsight. As such, the rejections based on the proposed commination of Arthurs and Ross are improper and should be withdrawn.

Even if we assume, arguendo, that Arthurs may be combined with Ross, the Examiner's above argument (Final Office Action, p. 4) regarding Ross is still deficient.

The Examiner repeatedly states the following regarding Ross' teachings:

Ross discloses "Thus, if the rule is "deny packets from port 80," the corresponding CAM entry is a bit string representing a value of 80 in the portion of the string corresponding to the port number [i.e., generating a physical port security bit map]. Note that, as the rules are typically more complex than simple filters on port numbers, the CAM entries typically consists of multiple fields corresponding to the parts of the conventional flow label of a packet. Such fields typically include the IP source address, IP destination address, source port number, destination port number [i.e., based on information in said received frame of digital data], type of service (TOS), and Layer 3 and Layer 4 protocol identification." (see column 3, line 58 to column 4, line 1, of Ross).

Ross, at col. 3, line 58 – col. 4, line 1, discloses an example of how a content addressable memory (CAM) can be used to hold bit masks representing elements of access control list (ACL) rules. More specifically, the various rule elements (e.g., a rule "deny packets from port 80") are implemented by one or more entries in the CAM (e.g., a bit string of 80 is recorded in the corresponding port number portion of the string). However, **even though Ross discloses ACL rule implementation using CAM entries, there is still no disclosure of generating a physical port security bit map of allowed destination ports. In other words, Ross' disclosure that "the corresponding CAM entry is a bit string representing a value of 80 in the portion of the string corresponding to the port number" does not include, or necessitate,**

generation of any physical port security bit map. Furthermore, Ross also does not disclose that a physical port security bit map is generated based on information in a received frame of digital data and/or port security information associated with the network device, as recited in Applicant's claim 1.

Furthermore with regard to the rejection of claim 1, the Applicant submits that the combination of Arthurs, Sawey and Ross does not disclose the limitation of "comparing, **using at least one logical operation**, said destination port bit map with said physical port security bit map **to generate a bit map of allowed destination ports**," as recited by Applicant's claim 1. It seems the Examiner is relying on Arthurs at col. 5, lines 58-65, col. 6, lines 4-9, and col. 7, lines 1-3 for support. However, Arthurs at these citations (or any remaining citation for that matter) does not utilize a logical operation on two separate bit maps (i.e., a destination port bit map and a physical port security bit map) for purposes of generating a third bit map of allowed destination ports. Sawey and Ross do not overcome the above deficiency of Arthurs.

Accordingly, the proposed combination of Arthurs, Sawey and Ross does not render independent claim 1 unpatentable, and a *prima facie* case of obviousness has not been established. The Applicant submits that claim 1 is allowable. Independent claim 12 is similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claim 12 is also allowable over the

references cited in the Final Office Action at least for the reasons stated above with regard to claim 1.

II. REJECTION OF DEPENDENT CLAIMS 2-11 AND 13-24

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Arthurs in view of Sawey and further in view of Ross has been overcome and requests that the rejection be withdrawn. Additionally, claims 2-11 and 13-24 depend from independent claims 1 and 12, respectively, and are, consequently, also respectfully submitted to be allowable based on the above arguments.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 2-11 and 13-24.

In general, the Final Office Action makes various statements regarding claims 1-24 and the cited references, which statements are now moot in light of the above. Thus, the Applicant will not address such statements at the present time. However, the Applicant expressly reserves the right to challenge such statements in the future should the need arise (e.g., if such statement should become relevant by appearing in a rejection of any current or future claim).

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CONCLUSION

Based on at least the foregoing, Applicant believes that all pending claims 1-24 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a phone interview, and requests that the Examiner telephone the undersigned at 312-775-8000.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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